

Claims

1. A method for setting the transmission parameters of transmission channels (C1..CK) combined in a group (G),

- 5 - wherein transmission parameters are set for each transmission channel (C1..CK) as a function of the determined transmission characteristics of the respective transmission channel (C1..CK) and of an assigned service, with the transmission channels (C1..CK) in each case
10 being assigned one of at least two services having different value ratings, and
- wherein the transmission channels (C1..CK) of the group can mutually influence one another through spectral interference,
- 15 c h a r a c t e r i z e d i n t h a t
- the influencing relationships between the transmission channels (C1..CK) are identified by continual determination of the spectral interference in the transmission channels (C1..CK) and of the status changes
20 of the transmission channels (C1..CK), and
- the transmission parameters of the transmission channels (C1..CK) are optimized as a function of the identified influencing relationships and the value rating of their respective services.

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2. The method as claimed in claim 1,
c h a r a c t e r i z e d i n t h a t
subgroups (UG1..UGP) of transmission channels (C1..CK) are classified as a function of the influencing relationships.

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3. The method as claimed in claim 1 or 2,
characterized in that
the influencing relationships, i.e. which transmission
channels (C1..CK) exert a spectral influence on which other
5 transmission channels (C1..CK), are identified and the
transmission channels are classified into subgroups by
means of an algebraic method based on binary state vectors.

4. The method as claimed in one of the claims 1 to 3,
10 characterized in that
the transmission parameters of the transmission channels
(C1..CK) are continually optimized, at regular or
predefinable time intervals or upon status changes, as a
function of the identified influencing relationships and
15 the value rating of their respective services.

5. The method as claimed in one of the preceding claims,
characterized in that
the value rating of the services is dependent on charges to
20 be achieved with the respective services or on a guaranteed
transmission quality or guaranteed transmission capacity or
a guaranteed transmission speed.

6. The method as claimed in one of the preceding claims,
25 characterized in that
the spectral influencing is determined by continual
measurement of the noise/useful signal ratio in the
transmission channels (C1..CK).

30 7. The method as claimed in one of the preceding claims,
characterized in that

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the status changes of the transmission channels (C1..CK) are represented by a change from an active to an inactive state or from an inactive to an active state or from an active to an error state or from an inactive to an error state or from an error state to an active state or from an error state to an inactive state.

8. The method as claimed in one of the claims 1 to 7, characterized in that

in transmission channels (C1..CK) operating according to the asynchronous transfer mode the status change is represented by the determination of idle cells in a predefined time period or a predefined number.

9. The method as claimed in claim 8, characterized in that

after status changes in broadband transmission channels (C1..CK) an initialization procedure determining the transmission parameters is initiated in the broadband transmission equipments assigned to the transmission channels (C1..CK1) and the spectral influence is determined from the transmission parameters.

10. The method as claimed in claim 8 or 9,

characterized in that the optimized transmission parameters are set for the respective transmission channels (C1..CK) in the transmission equipment in the course of the initialization procedure.

11. The method as claimed in one of the preceding claims,

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characterized in that

a unidirectional transmission channel is considered as one
transmission channel (C1..CK) and a bidirectional
transmission channel is considered as two transmission

5 channels.

12. The method as claimed in one of the preceding claims,

characterized in that

the spectral interferences are measured in the transmission
10 channels (C1..CK) via which no transmission method-specific
signals are transmitted, and said spectral interferences
are included in the optimization of the transmission
parameters.

15 13. The method as claimed in one of the preceding claims,

characterized in that

the transmission parameters are represented by the transmit
power distribution in the respective transmission channel
(C1..CK).

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14. The method as claimed in one of the preceding claims,

characterized in that

the group (G) or subgroups (UG1..UGP) of transmission
channels are implemented in a trunk group or a radio area
25 or at a node (KN) of a wired or wireless communication
network.

15. The method as claimed in claim 13,

characterized in that

30 the transmission channels (C1..CK) physically
hierarchically network-structured at a node (KN) are mapped

onto a logically star-shaped structure, with lower-ranking nodes being controlled by the central node (KN).

16. The method as claimed in one of the preceding claims,
5 characterized in that
the transmission parameters of the transmission channels
(C1..CK) of a group or subgroup of transmission channels
are optimized as a function of the identified influencing
relationships and the value rating of their respective
10 services with the aid of a mathematical optimization
method.

17. The method as claimed in one of the preceding claims,
characterized in that
15 the transmission meters of the transmission channels
(C1..CK) are in each case referred to an OFDM or a DMT
transmission method.

18. A communication equipment for setting the transmission
20 parameters for transmission channels (C1..CK) combined into
a group (G),

- having transmission equipments connected to the
communication equipment (KN), in each case terminating
the transmission channels (C1..CK), for determining the
25 transmission characteristics of the respective
transmission channel (C1..CK) and for recording the
transmission characteristics in the communication
equipment (KN),
- having means for setting the transmission parameters as a
30 function of the determined transmission characteristics
of the respective transmission channel (C1..CK) and of an

assigned service, with the transmission channels (C1..CK)
in each case being assigned one of at least two different
value ratings, and

the transmission channels (C1..CK) of the group (G) being
5 able to exert a mutual influence through spectral
interference,

characterized in that

- the communication equipment is embodied for recording the
spectral influence in the transmission channels (C1..CK)
10 and the status changes of the transmission channels
(C1..CK) and for identifying the influencing
relationships between the transmission channels (C1..CK),
and

- an optimization routine is provided for optimizing the
15 transmission parameters of the transmission channels
(C1..CK) as a function of the identified influencing
relationships and the value rating of their respective
services.